

REMARKS

The Examiner's acknowledgement in Paper No. 20100330 at page 5 that claims 12, 14 and 15 contain allowable subject matter is appreciated.

Indefiniteness Rejection

Claims 10, 13-15 and 17 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite. (Paper No. 20100330 at 2.)

The claims have been amended to provide antecedent basis, as requested by the Examiner.

It is submitted that the rejection has been rendered moot. Reconsideration and withdrawal of the rejection are requested.

Obviousness Rejection

Claims 1-3, 7, 10 and 16 were rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Stahl (U.S. Pat. 5,060,330) in view of Bruck (U.S. Pat. 3,688,323). (Id. at 3.) The rejection is respectfully traversed.

It is well settled the Examiner bears the burden to set forth a *prima facie* case of unpatentability. *In re Glaug*, 62 USPQ2d 1151, 1152 (Fed. Cir. 2002); *In re Oetiker*, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); and *In re Piasecki*, 223 USPQ 785, 788 (Fed. Cir. 1984). If the PTO fails to meet its burden, then the applicant is entitled to a patent. *In re Glaug*, 62 USPQ2d at 1152.

When patentability turns on the question of obviousness, as here, the search for and analysis of the prior art by the PTO should include evidence relevant to

the finding of whether there is a teaching, motivation, or suggestion to select and modify the document(s) relied on by the Examiner as evidence of obviousness. *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1731-32 (2007) (the obviousness “***analysis should be made explicit***” and the teaching-suggestion-motivation test is “***a helpful insight***” for determining obviousness) (emphasis added); *McGinley v. Franklin Sports*, 60 USPQ2d 1001, 1008 (Fed. Cir. 2001). Moreover, the factual inquiry whether to modify document(s) must be thorough and searching. And, as is well settled, the teaching, motivation, or suggestion test “***must be based on objective evidence of record***.” *In re Lee*, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002) (emphasis added). See also *Examination Guidelines for Determining Obviousness*, 72 Fed. Reg. 57526, 57528 (October 10, 2007) (“The key to supporting any rejection under 35 USC § 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious.”).

Here, what the rejection should have done, but did not, was to explain on the record ***why*** one skilled in this art would modify Stahl ('330) or Bruck in the manner proposed by the Examiner to arrive at the claimed invention. As is well settled, an Examiner cannot establish obviousness by locating documents which describe various aspects of a patent applicant's invention without also providing evidence of the motivating force which would impel one skilled in the art to do what the patent applicant has done. *Takeda Chem. Indus., Ltd v. Alphapharm Pty., Ltd.*, 492 F.3d 1350, 1357 (Fed. Cir. 2007) (citing *KSR*) (indicating that “it remains necessary to identify ***some reason*** that would have led a chemist to modify a known compound in a particular manner to establish prima facie obviousness of a new claimed compound”) (emphasis

added); *Ex parte Levengood*, 28 USPQ2d 1300, 1301-02 (BPAI 1993). But this is precisely what the Examiner has done here. Thus, the rejection is legally deficient and should be withdrawn for this reason alone.

Applicant agrees with the Examiner's analysis regarding Stahl to the extent that Stahl does not disclose that the guide blade is longer than the cutting blade. However, the Applicant refutes the Examiner's suggestion that this feature is taught or suggested by Bruck.

Before discussing Bruck, some brief comments regarding the use and function of the guide blade in the art are provided, as evidenced by Stahl ('330). In Stahl ('330) there are provided two cutting blades 24, 24' of identical length. This means that the tips of both blades contact the screw thread at exactly the same generatrix (i.e. the line along the outer surface of the cylinder parallel to its axis) of the cylindrical screw thread. (This line is referred to as a "line of tangency" with regard to the present invention.) As the screw thread is rotated against the cutting blades, in order to cut the screw thread, both blades 24 and 24' of Stahl ('330) cut the thread albeit, of course, at spaced apart locations. In such an arrangement, the cutting blades have a tendency to dig in to the screw, such that further rotation of the screw can cause it to rotate about the point of contact with the respective tips of the cutting blades and fly out of the notched recess. It is noted that although it may not be apparent from the geometry as shown in the figures, in practice this tendency for the screw to be pushed out of the notched recess by the cutting blade is a very real problem.

This problem is avoided in the present invention by using a guide blade that is longer than the cutting blade and projects beyond the point of contact of the cutting

blade such that the resulting overhang of the guide blade militates against any tendency for the screw to escape from the notched recess. In the present invention as claimed the cutting blade and the guide blade are both hingedly articulated to the body of the tool at their respective rear ends. As such, the cutting blade and the guide blade are both normal to the longitudinal axis of the bolt. This appears to be similar to Stahl ('330), except that in the present invention the guide blade does not *cut*; it is fundamentally different from Bruck ('323) where the cutting blade and the guide blade are both parallel to the longitudinal axis of the bolt. This difference is not incidental but is dictated by the very different manner in which Bruck operates as contrasted with Stahl ('330) as well as the present invention, as claimed, whose operation is more similar to that of Stahl ('330) but nevertheless fundamentally different in the respect that Stahl ('330) employs two parallel cutting blades.

In Bruck, the cutting blade, shown in elevation in FIG. 3, is provided with sharp grooves that follow the exact shape and path (by which it is assumed "pitch") of the existing threads of the bolt 11 to be repaired [col. 3, lines 33-33]. So different chasers (17) must be provided for engaging different threaded bolts [col. 3, lines 44-48] and prior to inserting bolt 11 in the thread chaser, the bolt must be gauged to determine the number of threads per inch and the proper chaser 17 then selected corresponding to the threads on bolt 11 [col. 4, lines 15-19]. This is avoided in the present invention where the tool is universal and suitable for use with any bolt regardless of pitch. The universality of the present invention is achieved by virtue of a single cutting blade whose rear end is hingedly articulated to the body so that the tip of the cutting blade engages the screw

thread at a single point and exactly chases the damaged screw thread as the screw is rotated.

The element 18 in Bruck is a "key way thread support" [col. 3, line 21] which has an angular smooth top end 56 abutting against and supporting bolt 11 [col. 3, lines 58-60]. In other words, as we understand it, the top edge of the thread support 18 is contoured to fit the shape of the bolt. But it does not prevent the bolt 11 from being drawn out of the notched recess by the force of the cutting tool. Indeed, as is clearly seen from FIG. 1, the tool rotates in the arrow 54, i.e., clockwise relative to the bolt. It thus emerges that the tip of the chaser 17 tends to push the bolt 11 to the left in the figure. The thread support 18 is thus located *behind* the cutting tool and is incapable of counteracting the force of the cutting tool, which is liable to push the bolt 11 out of the V-shaped cut-out 30 into the void between the jaws 13 and 15 toward the left of the chaser 17.

As opposed to this, it is seen from FIG. 2 of the present application that pressure applied to the pressure pad 12 acts simultaneously on both the cutting blade and the guide blade. Obviously, pressure must be applied to the cutting blade to force the tip thereof to cut through the bolt. But the pressure applied to the guide blade prevents the bolt from escaping from the V-shaped recess shown as 45 in FIG. 3, while the fact that the guide blade is longer than the cutting blade ensures that it straddles the bolt and blocks the exit from the V-shaped recess 45 in precisely the direction that the bolt would escape owing to its being pushed out of the recess by the tip of the cutting tool.

Furthermore, it follows from the foregoing that the thread support 18 in Bruck, while it may be longer than the cutting blade (albeit in a different plane to that of the present invention), does not teach, suggest, or provide motivation for the limitation in

claim 1 of the present application, which requires that the guide blade projects beyond the cutting face of the cutting blade. In Bruck the blade support does not project beyond the cutting face of the cutting blade but, to the contrary, actually sits behind the cutting blade in the direction of operation of the device.

It is perhaps unfortunate that the blade 7 is referred to throughout the description as a *guide* blade since, strictly, it serves as a guide blade only in the second embodiment shown in FIGS. 4 and 5 where the distance between the cutting edge 48 and the guide chamfer 49 is locked in order to ensure that it matches exactly the pitch of the screw. In this case, the blade 7 can also be said to act as a *guide* blade, within the normal meaning of the term. But in both embodiments described in the application, the guide blade 7 is longer than the cutting blade 6 and serves to retain the screw inside the V-shaped recess 45 against any tendency to escape under the action of the cutting blade 6.

With regard to the Examiner's assertion that one skilled in the art would be motivated to combine Stahl ('330) with Bruck so as "to provide a screw holding means that projects beyond the cutting blade and holds a greater circumferential surface of the screw to be repaired." (Paper No. 20100330 at 3.) First, it is reiterated that so far as can be understood, the thread support 18 in Bruck is not a screw holding means. Rather, it prevents the cutting blade from getting stuck within a key-way of the bolt, when provided. There is no component in the present invention that serves this function. On the other hand, the Examiner is correct to relate to the guide blade of the present invention as a screw holding means, since it maintains pressure on the screw and prevents its escaping from the V-shaped recess 45 under the action of the cutting blade 6. But even if the

thread support 18 in Bruck were a screw holding means, the Examiner's suggested motivation "to provide a screw holding means that projects beyond the cutting blade" is merely a re-statement of the invention without indicating why one skilled in the art would allegedly discern any reason, in view of the cited documents, to think it desirable to have the screw holding means project beyond the cutting blade. And, in any case, as noted above, the thread support 18 in Bruck cannot possibly be a screw holding means since it is located on the wrong side of the cutting tool to serve in such capacity. It is also not clear why the projection of the thread support in Bruck or the provision of two cutting blades in Stahl ('330), one projecting beyond the other, would facilitate holding "a greater circumferential surface of the screw to be repaired." In both Stahl ('330) and Bruck the size of the screw and hence its circumferential surface to be accommodated is dependent on the geometry of the tool, and in particular the maximum separation between the cutting tool and the bolt recess. This, indeed, is the same as in the present invention. It has nothing to do with whether or not the screw holding means projects beyond the cutting blade.

Clearly, the Examiner could only have fashioned the rejection with the use hindsight reconstruction in view of the present application. The Court of Appeals for the Federal Circuit has reaffirmed that "hindsight claims of obviousness" are improper. *Procter & Gamble Co. v. Teva Pharmaceuticals USA, Inc.*, 90 USPQ2d 1947 (Fed. Cir. 2009). For this reason alone, the rejection should be removed.

Finally, as noted previously, both blades in Stahl ('330) are cutting blades. This requires that they meet the same line of tangency of the screw. If one of the cutting blades in Stahl ('330) were elongated relative to the other, its cutting tip would not touch

the line of tangency of the damaged screw and so it would not cut. There is nothing in Stahl ('330) to suggest that the purpose of the second cutting blade (24') is merely to guide, or that it could be replaced by a non-cutting guide blade. We note that Stahl ('330) states at col. 3, lines 47-51:

While in principle one arm should be enough to perform the repair job, it is in practice next to impossible to carry out thread repair at or near the end of a screw without a second arm and cutting edge holding down and guiding the screw.

Although this passage in Stahl ('330) could suggest that the second arm 24' serves to guide, there is, however, no suggestion that it *merely* guides (i.e., does not cut). Moreover, Stahl's statement that "it is in practice next to impossible to carry out thread repair at or near the end of a screw without a second arm and cutting edge holding down and guiding the screw" indicates that Stahl discloses that there is a need for the second arm to be a cutting edge, and this belies the possibility that it be replaced by a non-cutting guide blade that is longer than the cutting blade. In other words, Stahl ('330) *leads one skilled in the art away* from the replacement of one of the cutting blades with a non-cutting guide blade.

Moreover, to modify Stahl in a way that the second arm be replaced by a non-cutting guide blade that is longer than the cutting blade would be to alter Stahl in a manner not intended and, in fact, contrary to its teachings. But, as is well settled, to do what the prior art teaches against is the very antithesis of obviousness. See, e.g., *In re Rosenberger*, 156 USPQ 24, 26 (CCPA 1968) and *In re Buehler*, 185 USPQ 781, 787 (CCPA 1975). For this reason in addition, the rejection should be withdrawn.

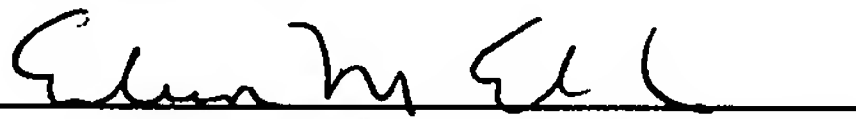
For all the foregoing reasons, Applicant disagrees that there is any motivation to combine Stahl ('330) with Bruck. The cited documents provide very different solutions to screw repair and neither provides any motivation for their combination; nor is it apparent how they could be combined since, once one of the cutting blades in Stahl ('330) is elongated relative to the other it ceases to cut and thus ceases to realize its described purpose. The Examiner appears merely to have detected an element in Bruck that could be interpreted as projecting beyond the cutting tool. But Bruck, whether alone or in combination with Stahl (although we contend that the combination is improper) does not disclose, suggest, or provide motivation for the limitations of claim 1 and cannot serve the purpose of the guide blade as claimed.

It is respectfully submitted that the rejection over Stahl ('330) in view of Bruck has been rendered moot. Reconsideration and withdrawal of the rejection are requested.

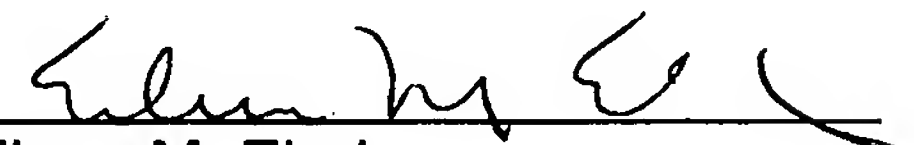
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For the foregoing reasons, entry of the amendments and allowance of the claims are requested. Issuance of a Notice of Allowance is respectfully requested. If the Examiner has any questions, please contact the undersigned.

I hereby certify that this correspondence (including items 1-4 identified above) is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner For Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on June 30, 2010.


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